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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/535,553

05/18/2005

William Donaldson

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EXAMINER

TRA, ANH QUAN

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/535,553

Applicant(s)

DONALDSON ET AL.

Examiner

Quan Tra

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/18/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/18/05&amp;1/26/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Application 60427413 designates figures 1-3 as prior arts.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-12, 14-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Buhning (EP 1065600), Applicant's submitted IDS.

As to claim 1, Buhning's figure shows a device comprising: a floating bus (CHN\_H, CHN\_L); power and data system (6-8, 11, 18, 19) for driving the floating bus, the power and data system comprising a charge pump circuit; and at least one switch control circuit (9, 10, 14, 15, 20) coupled to the floating bus and the power and data system for facilitating charging of the floating bus and for controlling electromagnetic emission from the device (it is inherent that circuit (9, 10, 14, 15, 20) controls some of or little the EME of the circuit).

As to claim 2, the figure shows that the at least one switch control circuit comprises a first switch control circuit and a second switch control circuit, the first switch control circuit comprising at least one P type transistor circuit (9), and the second switch control circuit comprising at least one N type transistor circuit (10) and wherein the first switch control circuit and the second switch control circuit comprise complementary circuits.

As to claim 3, the figure shows that the first switch control circuit is electrically connected to a first bus node of the floating bus and the second switch control circuit is electrically connected to a second bus node of the floating bus.

As to claim 4, the figure shows that the charge pump circuit comprises an integrated circuit employing at least one transistor and diode pair.

As to claim 6, the figure shows that the floating bus comprises a balanced bus system having a high side bus node and a low side bus node, and wherein the at least one switch control circuit comprises a first switch control circuit and a first diode connected to the high side bus node and a second switch control circuit and a second diode connected to the low side bus node.

As to claim 7, the figure shows that the first switch control circuit and the second switch control circuit are driven by a reference circuit (circuit, not shown, that providing supply voltages to circuit 14 and 15), the reference circuit generating a first reference signal for the first switch control circuit and a second reference signal for the second switch control circuit.

As to claim 8, the figure shows that when a voltage across a first terminal and a second terminal of the first switch control circuit is greater than a threshold value (a threshold value may be any value), output current from the first switch control circuit is constant at a value dependent on the first reference signal (clearly the output current is dependent on the power supply voltage of 14 and 15), and when voltage across a first terminal and a second terminal of the second

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switch control circuit is greater than the threshold value, output from the second switch control circuit is constant at a value dependent on the second reference signal.

As to claim 9, the figure shows that the at least one switch control circuit controls electromagnetic emission from the device by constraining the slew rate on the floating bus.

As to claim 10, the figure shows a circuit comprising: a first switch control circuit (9, 20, 14) for electrical coupling to a high side bus node of a floating bus, and a second switch control circuit (10, 15) for electrical coupling to a low side bus node of the floating bus, wherein the first switch control circuit and the second control circuit comprise complementary circuits for controlling charging of the floating bus by a power and data system; and a reference circuit for generating a first reference signal for the first switch control circuit and a second reference signal for the second switch control circuit, wherein the first reference signal and the second reference signal are employed by the first switch control circuit and the second switch control circuit, respectively, for controlling electromagnetic emissions from the floating bus by constraining a slew rate on the floating bus.

As to claim 11, the figure shows that the power and data system comprises a charge pump circuit, the charge pump circuit comprising an integrated circuit.

As to claim 12, the figure shows that the first switch control circuit comprises a P type transistor circuit, and the second switch control circuit comprises a complementary N type transistor circuit.

As to claim 14, the figure shows a method comprising: tailoring a transfer characteristic of a first switch control circuit (9, 14, 20) to be electrically coupled to a high side bus node of a floating bus, and tailoring a transfer characteristic of a second switch control circuit (10, 15) to be electrically coupled to a low side bus node of the floating bus, wherein the first switch control circuit and the second switch control circuit comprise complementary control circuits for

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controlling charging of the floating bus by a power and data system; and generating, when in use, a first reference signal (power supply of 14) for the first switch control circuit and a second reference signal (power supply of 15) for the second switch control circuit, wherein the first reference signal and the second reference signal are employed by the first switch control circuit and the second switch control circuit, respectively, for controlling electromagnetic emission from the floating bus by constraining a slew rate on the floating bus.

As to claim 15, the figure shows that the power and data system comprises a charge pump circuit, the charge pump circuit comprising an integrated circuit.

As to claim 16, the figure shows the step of integrating the first switch control circuit and the second switch control circuit on the integrated circuit with the charge pump circuit.

Claim 18 recite similar limitations of claim 10. Therefore, it is rejected for the same reasons.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhning (EP 1065600) in view of Yamanaka (US 20020154524).

Buhning's figure shows all limitations of the claims except for that "the at least one switch control circuit is operable in at least a low speed mode and a high speed mode, with mode of the at least one switch control circuit being dependent upon a desired floating bus charging speed". However, Yamanaka's figures 2-5 shows charge pump circuit having voltage detecting circuit (i.e. 2-11 and 22 in figure 2) for controlling the speed of the switches in order to reducing

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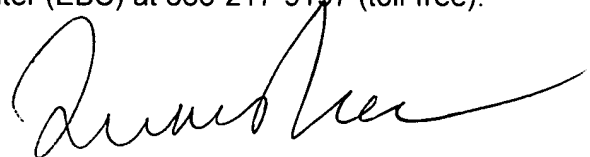
rush current. Therefore, it would have been obvious to one having ordinary skill in the art to employ Yamanaka teaching to control the switches' speeches of Buhning in order to reduce rush current.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan Tra whose telephone number is 571-272-1755. The examiner can normally be reached on 8:00 A.M.-5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QUAN TRA  
PRIMARY EXAMINER  
ART UNIT 2816

August 28, 2006